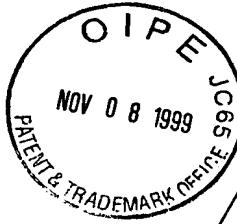


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WANG, Jian
WU, Xiying
ZUCKERMAN, Steven Harold



<120> THERAPEUTIC APPLICATIONS OF mFLINT POLYPEPTIDES

<130> 040902/0136

<140> US 09/280,567
<141> 1999-03-30

<150> US 60/113,407
<151> 1998-12-22

<150> US 60/112,933
<151> 1998-12-18

<150> US 60/112,703
<151> 1998-12-18

<150> US 60/112,577
<151> 1998-12-17

<150> US 60/099,643
<151> 1998-09-09

<150> US 60/086,074
<151> 1998-05-20

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<151> 1998-03-30

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gcg ctg cct gcc ctg ctg ccg gtg ccg gct gta cgc gga gtg gca gaa 96
 Ala Leu Pro Ala Leu Leu Pro Val Pro Ala Val Arg Gly Val Ala Glu
 20 25 30

aca ccc acc tac ccc tgg cg gac gca gag aca ggg gag cgg ctg gtg 144
 Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu Arg Leu Val
 35 40 45

tgc gcc cag tgc ccc cca ggc acc ttt gtg cag cgg ccg tgc cgc cga 192
 Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg
 50 55 60

gac agc ccc acg acg tgg ggc ccg tgg cca ccg cgc cac tac acg cag 240
 Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His Tyr Thr Gln
 65 70 75 80

ttc tgg aac tac ctg gag cgc tgc cgc tac tgc aac gtc ctc tgc ggg 288
 Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly
 85 90 95

gag cgt gag gag gag gca cgg gct tgc cac gac acc cac aac cgt gcc 336
 Glu Arg Glu Glu Ala Arg Ala Cys His Ala Thr His Asn Arg Ala
 100 105 110

tgc cgc tgc cgc acc ggc ttc ttc gcg cac gct ggt ttc tgc ttg gag 384
 Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe Cys Leu Glu
 115 120 125

cac gca tcg tgg cca cct ggt gcc ggc gtg att gcc ccg ggc acc ccc 432
 His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro Gly Thr Pro
 130 135 140

agc cag aac acg cag tgc cag ccg tgc ccc cca ggc acc ttc tca gcc 480
 Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr Phe Ser Ala
 145 150 155 160

agc agc tcc agc tca gag cag tgc cag ccc cac cgc aac tgc acg gcc 528
 Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn Cys Thr Ala
 165 170 175

ctg ggc ctg gcc ctc aat gtg cca ggc tct tcc tcc cat gac acc ctg 576
 Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His Asp Thr Leu
 180 185 190

tgc acc agc tgc act ggc ttc ccc ctc agc acc agg gta cca gga gct 624
 Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val Pro Gly Ala
 195 200 205

gag gag tgt gag cgt gcc gtc atc gac ttt gtg gct ttc cag gac atc 672
 Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe Gln Asp Ile
 210 215 220

tcc atc aag agg ctg cag cgg ctg ctg cag gcc ctc gag gcc ccg gag 720
 Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu Ala Pro Glu
 225 230 235 240

ggc tgg ggt ccg aca cca agg ggc cgc gcg gcc ttg cag ctg aag 768
 Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu Gln Leu Lys
 245 250 255

ctg cgt cgg cgg ctc acg gag ctc ctg ggg ggc cag gac ggg gcg ctg 816
 Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp Gly Ala Leu
 260 265 270

Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp Gly Ala Leu
260 265 270

Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg Met Pro Gly Leu
275 280 285

Glu Arg Ser Val Arg Glu Arg Phe Leu Pro Val His
290 295 300

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<213> Homo sapiens

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<222> (25)..(924)

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tcg ctg ctg tgc ctg ttg cgc ctg cct gcc ctg ctg ccg gtg ccg 99
Ser Leu Leu Cys Leu Val Leu Ala Leu Pro Ala Leu Leu Pro Val Pro
10 15 20 25

gct gta cgc gga gtg gca gaa aca ccc acc tac ccc tgg cgg gac gca 147
Ala Val Arg Gly Val Ala Glu Thr Pro Thr Tyr Pro Trp Arg Asp Ala
30 35 40

gag aca ggg gag cgg ctg gtg tgc gcc cag tgc ccc cca ggc acc ttt 195
Glu Thr Gly Glu Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe
45 50 55

gtg cag cgg ccg tgc cgc cga gac agc ccc acg acg tgt ggc ccg tgt 243
Val Gln Arg Pro Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys
60 65 70

cca ccg cgc cac tac acg cag ttc tgg aac tac ctg gag cgc tgc cgc 291
Pro Pro Arg His Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg
75 80 85

tac tgc aac gtc ctc tgc ggg gag cgt gag gag gca cgg gct tgc 339
Tyr Cys Asn Val Leu Cys Gly Glu Arg Glu Glu Ala Arg Ala Cys
90 95 100 105

cac gcc acc cac aac cgt gcc tgc cgc tgc cgc acc ggc ttc ttc gcg 387
His Ala Thr His Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala
110 115 120

cac gct ggt ttc tgc ttg gag cac gca tcg tgt cca cct ggt gcc ggc 435
His Ala Gly Phe Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly
125 130 135

gtg att gcc ccg ggc acc ccc agc cag aac acg cag tgc cag ccg tgc 483
Val Ile Ala Pro Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys
140 145 150

ccc cca ggc acc ttc tca gcc agc agc tcc agc tca gag cag tgc cag 531
Pro Pro Gly Thr Phe Ser Ala Ser Ser Ser Ser Glu Gln Cys Gln
155 160 165

ccc cac cgc aac tgc acg gcc ctg ggc ctg gcc ctc att gtg cca ggc 579
 Pro His Arg Asn Cys Thr Ala Leu Gly Leu Ala Leu Ile Val Pro Gly
 170 175 180 185
 tct tcc tcc cat gac acc ctg tgc acc agc tgc act ggc ttc ccc ctc 627
 Ser Ser Ser His Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu
 190 195 200
 agc acc agg gta cca gga gct gag gag tgt gag cgt gcc gtc atc gac 675
 Ser Thr Arg Val Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp
 205 210 215
 ttt gtg gct ttc cag gac atc tcc atc aag agg ctg cag cgg ctg ctg 723
 Phe Val Ala Phe Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu
 220 225 230
 cag gcc ctc gag gcc ccg gag ggc tgg gct ccg aca cca agg gcg ggc 771
 Gln Ala Leu Glu Ala Pro Glu Gly Trp Ala Pro Thr Pro Arg Ala Gly
 235 240 245
 cgc gcg gcc ttg cag ctg aag ctg cgt cgg cgg ctc acg gag ctc ctg 819
 Arg Ala Ala Leu Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu
 250 255 260 265
 ggg gcg cag gac ggg gcg ctg ctg gtg cgg ctg ctg cag gcg ctg cgc 867
 Gly Ala Gln Asp Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg
 270 275 280
 gtg gcc agg atg ccc ggg ctg gag cgg agc gtc cgt gag cgc ttc ctc 915
 Val Ala Arg Met Pro Gly Leu Glu Arg Ser Val Arg Glu Arg Phe Leu
 285 290 295
 cct gtg cac tgatcctggc cc 936
 Pro Val His
 300

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 <211> 300
 <212> PRT
 <213> Homo sapiens

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 Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu Arg Leu Val
 35 40 45
 Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg
 50 55 60
 Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His Tyr Thr Gln
 65 70 75 80
 Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly
 85 90 95
 Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His Asn Arg Ala
 100 105 110

Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe Cys Leu Glu
 115 120 125
 His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro Gly Thr Pro
 130 135 140
 Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr Phe Ser Ala
 145 150 155 160
 Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn Cys Thr Ala
 165 170 175
 Leu Gly Leu Ala Leu Ile Val Pro Gly Ser Ser Ser His Asp Thr Leu
 180 185 190
 Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val Pro Gly Ala
 195 200 205
 Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe Gln Asp Ile
 210 215 220
 Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu Ala Pro Glu
 225 230 235 240
 Gly Trp Ala Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu Gln Leu Lys
 245 250 255
 Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp Gly Ala Leu
 260 265 270
 Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg Met Pro Gly Leu
 275 280 285
 Glu Arg Ser Val Arg Glu Arg Phe Leu Pro Val His
 290 295 300

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 cgg ctg gtg tgc gcc cag tgc ccc cca ggc acc ttt gtg cag cgg ccg 96
 Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro
 20 25 30
 tgc cgc cga gac agc ccc acg acg tgt ggc ccg tgt cca ccg cgc cac 144
 Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His
 35 40 45
 tac acg cag ttc tgg aac tac ctg gag cgc tgc cgc tac tgc aac gtc 192
 Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val
 50 55 60

ctc tgc ggg gag cgt gag gag gca cgg gct tgc cac gcc acc cac 240
 Leu Cys Gly Glu Arg Glu Glu Ala Arg Ala Cys His Ala Thr His
 65 70 75 80

aac cgt gcc tgc cgc acc ggc ttc ttc gcg cac gct gat ttc 288
 Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe
 85 90 95

tgc ttg gag cac gca tcg tgt cca cct ggt gcc ggc gtg att gcc ccg 336
 Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro
 100 105 110

ggc acc ccc agc cag aac acg cag tgc cag ccg tgc ccc cca ggc acc 384
 Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr
 115 120 125

ttc tca gcc agc agc tcc agc tca gag cag tgc cag ccc cac ccg aac 432
 Phe Ser Ala Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn
 130 135 140

tgc acg gcc ctg ggc ctg gcc ctc aat gtg cca ggc tct tcc tcc cat 480
 Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser His
 145 150 155 160

gac acc ctg tgc acc agc tgc act ggc ttc ccc ctc agc acc agg gta 528
 Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val
 165 170 175

cca gga gct gag gag tgt gag cgt gcc gtc atc gac ttt gtg gct ttc 576
 Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe
 180 185 190

cag gac atc tcc atc aag agg ctg cag cgg ctg ctg cag gcc ctc gag 624
 Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu
 195 200 205

gcc ccg gag ggc tag ggt ccg aca cca agg gcg ggc cgc gcg gcc ttg 672
 Ala Pro Glu Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu
 210 215 220

cag ctg aag ctg cgt cgg cgg ctc acg gag ctc ctg ggg gcg cag gag 720
 Gln Leu Lys Leu Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp
 225 230 235 240

ggg gcg ctg ctg gtg cgg ctg cag gcg ctg cgc gtg gcc agg atg 768
 Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg Met
 245 250 255

ccc ggg ctg gag cgg agc gtc cgt gag cgc ttc ctc cct gtg cac 813
 Pro Gly Leu Glu Arg Ser Val Arg Glu Arg Phe Leu Pro Val His
 260 265 270

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 <213> Homo sapiens

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Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro
 20 25 30

Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His
35 40 45

Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asp Val
50 55 60

Leu Cys Gly Glu Arg Glu Glu Ala Arg Ala Cys His Ala Thr His
65 70 75 80

Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe
85 90 95

Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro
100 105 110

Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr
115 120 125

Phe Ser Ala Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn
130 135 140

Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His
145 150 155 160

Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val
165 170 175

Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe
180 185 190

Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu
195 200 205

Ala Pro Glu Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu
210 215 220

Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp
225 230 235 240

Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg Met
245 250 255

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<222> (1)..(813)

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cgg ctg gtg tgc gcc cag tgc ccc cca ggc acc ttt gtg cag cgg ccg 96
Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro
20 25 30

tgc cgc cga gac agc ccc acg acg tgt ggc ccg tgt cca ccg cgc cac 144
 Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His
 35 40 45

tac acg cag ttc tgg aac tac ctg gag cgc tgc ccg tac tgc aac gtc 192
 Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val
 50 55 60

ctc tgc ggg gag cgt gag gag gca ccg gct tgc cac gec acc cac 240
 Leu Cys Gly Glu Arg Glu Glu Ala Arg Ala Cys His Ala Thr His
 65 70 75 80

aac cgt gcc tgc cgc tgc ccg acc ggc ttc ttc gcg cac gct ggt ttc 288
 Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe
 85 90 95

tgc ttg gag cac gca tcg tgt cca cct ggt ggc gtc att gcc ccg 336
 Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro
 100 105 110

ggc acc ccc agc cag aac acg cag tgc cag ccg tgc ccc cca ggc acc 384
 Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr
 115 120 125

ttc tca gcc agc agc tcc agc tca gag cag tgc cag ccc cac cgc aac 432
 Phe Ser Ala Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn
 130 135 140

tgc acg gcc ctg ggc ctg gcc ctc aat gtg cca ggc tct tcc tcc cat 480
 Cys Thr Ala Leu 'Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His
 145 150 155 160

gac acc ctg tgc acc agc tgc act ggc ttc ccc ctc agc acc agg gta 528
 Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val
 165 170 175

cca gga gct gag gag tgt gag cgt gcc gtc atc gac ttt gtg gct ttc 576
 Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe
 180 185 190

cag gac atc tcc atc aag agg ctg cag ccg ctg ctg cag gcc ctc gag 624
 Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu
 195 200 205

gcc ccg gag ggc tgg gct ccg aca cca agg ggc ggc cgc gcg gcc ttg 672
 Ala Pro Glu Gly Trp Ala Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu
 210 215 220

cag ctg aag ctg cgt ccg cgg ctc acg gag ctc ctg ggg gcg cag gac 720
 Gln Leu Lys Leu Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp
 225 230 235 240

ggg gcg ctg ctg gtg cgg ctg cag gcg ctg cgc gtg gcc agg atg 768
 Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg Met
 245 250 255

gcc ggg ctg gag cgg agc gtc cgt gag cgc ttc ctc cct gtg cac 813
 Pro Gly Leu Glu Arg Ser Val Arg Glu Arg Phe Leu Pro Val His
 260 265 270

tgatcctggc cc 825

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<212> PRT
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20 25 30
Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His
35 40 45
Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val
50 55 60
Leu Cys Gly Glu Arg Glu Glu Ala Arg Ala Cys His Ala Thr His
65 70 75 80
Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe
85 90 95
Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro
100 105 110
Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr
115 120 125
Phe Ser Ala Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn
130 135 140
Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His
145 150 155 160
Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val
165 170 175
Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe
180 185 190
Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu
195 200 205
Ala Pro Glu Gly Trp Ala Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu
210 215 220
Gln Leu Lys Leu Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp
225 230 235 240
Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg Met
245 250 255
Pro Gly Leu Glu Arg Ser Val Arg Glu Arg Phe Leu Pro Val His
260 265 270

<210> 9
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<213> Artificial Sequence

Sub
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<220>
<223> Description of Artificial Sequence: Polypeptide

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Asp Tyr Lys Asp Asp Asp Asp Lys
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<210> 10
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

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<210> 11
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

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aagcgc 66

<210> 12
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<212> DNA
<213> Artificial Sequence

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gaagatcttc tttgatcaag gatgggcttc tggactt 37

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer

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1/2

FIG. 2

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			Met	Arg	Ala	Leu	Glu	Gly	Pro	Gly	Leu					
			1				5									
tcg	ctg	ctg	tgc	ctg	gtg	ttg	gct	cct	gcc	ctg	ctg	ccg	gtg	ccg	99	
Ser	Leu	Leu	Deu	Cys	Leu	Val	Leu	Ala	Leu	Pro	Ala	Leu	Leu	Pro	Val	Pro
10			15			20		25								
gct	gta	cgc	gga	gtg	gca	gaa	aca	ccc	acc	tac	ccc	tgg	ccg	gac	gca	147
Ala	Val	Arg	Gly	Val	Ala	Glu	Thr	Pro	Thr	Thr	Tyr	Pro	Trp	Arg	Asp	Ala
			30			35								40		
gag	aca	ggg	gag	cg	ctg	gtg	tgc	gcc	cag	tgc	ccc	cca	ggc	acc	ttt	195
Glu	Thr	Gly	Glu	Arg	Leu	Val	Cys	Ala	Gln	Cys	Pro	Pro	Gly	Thr	Phe	
			45			50			55							
gtg	cag	cg	ccg	tgc	cg	cg	gac	agc	ccc	acg	acg	tgt	ggc	ccg	tgt	243
Val	Gln	Arg	Pro	Cys	Arg	Arg	Asp	Ser	Pro	Thr	Thr	Cys	Gly	Pro	Cys	
	60			65			70									
cca	ccg	cg	cac	tac	acg	ca	t	ttc	tgg	aac	tac	ctg	gag	cg	tgc	291
Pro	Pro	Arg	His	Tyr	Thr	Gln	Phe	Trp	Asn	Tyr	Leu	Glu	Arg	Cys	Arg	
	75			80						85						
tac	tgc	aa	gtc	ctc	tgc	ggg	gag	cgt	gag	gag	gag	gca	cg	gct	tgc	339
Tyr	Cys	Asn	Val	Leu	Cys	Gly	Glu	Arg	Glu	Glu	Glu	Ala	Arg	Ala	Cys	
	90			95					100			105				
cac	gcc	acc	cac	aa	cgt	gcc	tgc	cg	cc	acc	ggc	ttc	ttc	g	387	
His	Ala	Thr	His	Asn	Arg	Ala	Cys	Arg	Arg	Thr	Gly	Phe	Phe	Ala		
	110				115					120						
cac	gct	gg	ttc	tgc	tt	gg	ac	gca	tcg	tgt	cca	cct	gg	gg	435	
His	Ala	Gly	Phe	Cys	Leu	Glu	His	Ala	Ser	Cys	Pro	Pro	Gly	Ala	Gly	
	125				130					135						
gtg	att	gcc	ccg	ggc	acc	ccc	agc	cag	aac	acg	cag	tgc	cag	ccg	tgc	483
Val	Ile	Ala	Pro	Gly	Thr	Pro	Ser	Gln	Asn	Thr	Gln	Cys	Gln	Pro	Cys	
	140			145						150						
ccc	cca	ggc	acc	ttc	tca	gcc	agc	agc	tcc	agc	tca	gag	cag	tgc	cag	531
Pro	Pro	Gly	Thr	Phe	Ser	Ala	Ser	Ser	Ser	Ser	Ser	Ser	Glu	Gln	Cys	Gln
	155			160						165						
ccc	cac	cg	aa	tgc	ac	g	cc	ctg	gg	cc	ctc	att	gt	cc	gg	579
Pro	His	Arg	Asn	Cys	Thr	Ala	Leu	Gly	Leu	Ala	Leu	Ile	Val	Pro	Gly	
	170			175						180			185			
tct	tcc	tcc	cat	gac	acc	ctg	tgc	acc	agc	tgc	act	ggc	ttc	cc	cc	627
Ser	Ser	Ser	His	Asp	Thr	Leu	Cys	Thr	Ser	Cys	Thr	Gly	Phe	Pro	Leu	
	190			195						200						
agc	acc	agg	gta	cca	gga	gct	gag	gag	tgt	gag	cgt	gcc	gtc	atc	gac	675
Ser	Thr	Arg	Val	Pro	Gly	Ala	Glu	Glu	Cys	Glu	Arg	Ala	Val	Ile	Asp	
	205				210					215						
ttt	gt	g	ttc	cag	gac	atc	tcc	atc	aag	agg	ctg	cag	cg	ctg	ctg	723
Phe	Val	Ala	Phe	Gln	Asp	Ile	Ser	Ile	Lys	Arg	Leu	Gln	Arg	Leu	Leu	
	220				225					230						

G, cont.

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FIG. 2 (cont'd.)

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FIG. 4

gtg gca gaa aca ccc acc tac ccc tgg cg ^g gac gca gag aca ggg gag	48
Val Ala Glu Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu	
1 5 10 15	
cg ^g ctg gtg tgc gcc cag tgc ccc cca ggc acc ttt gtg cag cg ^g ccg	96
Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro	
20 25 30	
tgc cgc cga gac agc ccc acg acg t ^g t ggc ccg t ^g t cca ccg cgc cac	144
Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His	
35 40 45	
tac acg cag ttc tgg aac tac ctg gag cg ^c tgc cgc tac tgc aac gtc	192
Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val	
50 55 60	
ctc tgc ggg gag cgt gag gag gca cgg gct tgc cac gcc acc cac	240
Leu Cys Gly Glu Arg Glu Glu Ala Arg Ala Cys His Ala Thr His	
65 70 75 80	
aac cgt gcc tgc cgc tgc cgc acc ggc ttc ttc ggc cac gct ggt ttc	288
Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe	
85 90 95	
tgc ttg gag cac gca tcg t ^g t cca c ^g t gtc ggc gtg att gcc ccg	336
Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro	
100 105 110	
ggc acc ccc agc cag aac acg cag tgc cag ccg tgc ccc cca ggc acc	384
Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr	
115 120 125	
ttc tca gcc agc agc tcc agc tca gag cag tgc cag ccc cac cgc aac	432
Phe Ser Ala Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn	
130 135 140	
tgc acg gcc ctg ggc ctg gcc ctc aat gtg cca ggc tct tcc tcc cat	480
Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His	
145 150 155 160	
gac acc ctg tgc acc agc tgc act ggc ttc ccc ctc agc acc agg gta	528
Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val	
165 170 175	
cca gga gct gag gag t ^g t gag cgt gcc gtc atc gac ttt gtg gct ttc	576
Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe	
180 185 190	
cag gac atc tcc atc aag agg ctg cag cg ^g ctg ctg cag gcc ctc gag	624
Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu	
195 200 205	
gcc ccg gag ggc tgg gct ccg aca cca agg ggc ggc cgc ggc gcc ttg	672
Ala Pro Glu Gly Trp Ala Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu	
210 215 220	
cag ctg aag ctg cgt cg ^g cgg ctc acg gag ctc ctg ggg ggc cag gac	720
Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp	
225 230 235 240	

G₂ CONT.

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FIG. 4 (cont'd.)

ggg gcg ctg ctg gtg cgg ctg ctg cag gcg ctg cgc gtg gcc agg atg 768
Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg Met
245 250 255

ccc ggg ctg gag cgg agc gtc cgt gag cgc ttc ctc cct gtg cac 813
Pro Gly Leu Glu Arg Ser Val Arg Glu Arg Phe Leu Pro Val His
260 265 270

tgatcctggc cc 825